

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-31 (Canceled)

32. (Currently Amended) An isolated mutant phytase comprising either:

(i) an amino acid sequence having at least 96 percent sequence identity to SEQ ID NO:2 ~~over a region of at least 100 amino acid residues~~ and containing at least one substitution comprising an amino acid residue substitution of at least one amino acid residue selected from the group consisting of residue 50, 91, 94, 228, 262, 300, and 301 of SEQ ID NO:2, wherein said isolated mutant phytase has phytase activity; or

(ii) ~~an amino acid sequence having at least 96 percent sequence identity to SEQ ID NO:4 over a region of at least 100 amino acid residues and containing a substitution of amino acid residue 363 of SEQ ID NO:4.~~

33. (Original) The isolated mutant phytase according to claim 32, wherein said isolated mutant phytase is in pure or non-pure form.

34. (Original) The isolated mutant phytase according to claim 32, wherein said isolated mutant phytase is recombinant.

Claims 35-37 (Canceled)

38. (Currently Amended) The isolated mutant phytase according to claim 32, wherein said at least one substitution ~~is of amino acid residue 228 of SEQ ID NO:2 and is selected from the group consisting of E228Q and E228K.~~

Claims 39-42 (Canceled)

43. (Currently Amended) The isolated mutant phytase according to claim 32, wherein said at least one substitution comprises a double-substitution, wherein said double-substitution comprises an amino acid residue substitution of residue 228 of SEQ ID NO:2 and an amino acid residue substitution of either residue 94 or residue 300 of SEQ ID NO:2.

44. (Currently Amended) The isolated mutant phytase according to claim 43, wherein said double-substitution is selected from the group consisting of ~~K300E/K301E~~, K300D/E228K, K300T/E228K, K300R/E228K, and E228K/K94E.

45. (Currently Amended) The isolated mutant phytase according to claim 32, wherein said at least one substitution comprises a triple-substitution, wherein said triple-substitution comprises an amino acid residue substitution of residue 228 of SEQ ID NO:2 and two additional amino acid residue substitutions of the amino acid residues selected from the group consisting of residue 91, 94, 300, and 301 of SEQ ID NO:2.

46. (Currently Amended) The isolated mutant phytase according to claim 45, wherein said triple-substitution is selected from the group consisting of K300R/K301E/E228K, K300T/K301E/E228K, K300D/K301E/E228K, ~~K300E/K301E/K94E~~, K301E/E228K/K94E, and K300E/K91A/E228Q.

47. (Currently Amended) The isolated mutant phytase according to claim 32, wherein said at least one substitution comprises a quadruple-substitution, wherein said quadruple-substitution comprises an amino acid residue substitution of residue 228 of SEQ ID NO:2 and amino acid residue substitutions of residues 94, 262, and 300 of SEQ ID NO:2.

48. (Original) The isolated mutant phytase according to claim 47, wherein said quadruple-substitution comprises K300D/K94A/E228A/D262A.

49. (Original) An animal feed composition comprising the isolated mutant phytase according to claim 32.

50. (Original) A foodstuff comprising an animal feed composition according to claim 49.

51. (Original) The foodstuff according to claim 50, wherein the foodstuff further comprises greater than 1.0% by weight vitamin and mineral mix.

52. (Original) The foodstuff according to claim 50, wherein the foodstuff further comprises soybean meal.

53. (Original) The foodstuff according to claim 50, wherein the foodstuff further comprises antibiotics.

Claims 54-92 (Canceled)